

TENDER SPECIFICATION

Proposed Additional First Floor Office Accommodation

Gort Road, Ennis, Co. Clare

Client: Corlann Ireland

Building Surveyor / Contract Administrator: Ian Sheehy Building Surveyor Ltd.

PART 1 – GENERAL REQUIREMENTS

1.1 PROJECT PARTICULARS

Item	Details
Project	Proposed Additional First Floor Office Accommodation
Location	Gort Road, Ennis, Co. Clare
Client	Corlann Ireland
Architect	Ian Sheehy Building Surveyor Ltd.
Structural Engineer	Mark McKenna Consulting
Building Services Engineer	Moloney Fox Consulting
PSDP	Refer Contract Particulars
Assigned Certifier	Refer Contract Particulars
Procurement	Public Works Tender
Form of Contract	Public Works Contract (as stated in Tender Documents)

1.2 DESCRIPTION OF THE WORKS

The Works comprise the alteration and extension of an existing training centre to provide additional first floor office accommodation within the existing building envelope.

The principal elements of the Works include, but are not limited to:

- selective demolition and strip-out works;
- structural alterations to the existing building;

- construction of a new structural intermediate floor;
- installation of structural steelwork;
- construction of new internal partitions;
- installation of a platform lift and associated lift enclosure;
- installation of new first floor windows;
- formation of new escape routes;
- fire compartmentation works;
- suspended ceilings;
- internal joinery and fitted furniture;
- internal finishes and decorations;
- builders' work in connection with building services;
- associated external works;
- testing, commissioning and certification;
- preparation of record documentation and handover information.

The Works shall be completed as a fully coordinated project in accordance with the Contract Documents.

1.3 CONTRACT DOCUMENTS

The Contract Documents shall comprise, but are not be limited to:

- Form of Tender
- Letter of Acceptance
- Conditions of Contract
- Bills of Quantities / Pricing Document
- Architectural Drawings
- Structural Engineer's Drawings
- Mechanical & Electrical Drawings
- Architectural Specification
- Structural Specification

- Mechanical Specification
- Electrical Specification
- Schedules
- Architect's Instructions
- Contract Clarifications
- Relevant Statutory Approvals

All Contract Documents shall be read as a coordinated package.

Information contained within one document shall be deemed to supplement information contained within the others.

1.4 ORDER OF PRECEDENCE

Where discrepancies exist between the Contract Documents, they shall be referred to the Architect prior to commencement of the affected work.

The Contractor shall not proceed where conflicting information exists.

Unless otherwise instructed, the following order of precedence shall apply:

Priority Document

- 1 Written Architect's Instruction
- 2 Contract Conditions
- 3 Architectural Specification
- 4 Structural Engineer's Specification
- 5 Mechanical & Electrical Specifications
- 6 Schedules
- 7 Large Scale Drawings
- 8 General Arrangement Drawings

1.5 SITE INSPECTION

Tenderers shall be deemed to have inspected the site and familiarised themselves with:

- access restrictions;
- existing building construction;
- existing services;
- working restrictions;
- storage limitations;
- adjacent occupied accommodation;
- existing levels;
- weather exposure;
- statutory requirements.

No claim arising from failure to inspect the site shall be considered.

1.6 EXISTING BUILDING

The Works are to an existing operational building.

Particular care shall be exercised to minimise disruption to adjoining occupied areas.

The Contractor shall include for:

- protection of existing finishes;
- protection of existing services;
- temporary weatherproofing;
- temporary fire protection;
- dust suppression;
- vibration control;
- noise control;
- safe segregation of construction activities;
- continuous housekeeping.

Any damage arising from the execution of the Works shall be repaired at the Contractor's expense.

1.7 QUALITY OBJECTIVE

The Employer requires a project of a high standard of workmanship, durability and finish.

All work shall:

- comply with the Contract Documents;
- be executed by competent tradespersons;
- utilise materials fit for purpose;
- comply with manufacturers' recommendations;
- achieve the specified performance;
- satisfy statutory requirements.

Completed work shall be neat, true, plumb, level and free from visible defects.

1.8 STANDARDS

The Works shall comply with the latest editions (including amendments) of all relevant:

- Building Regulations;
- Technical Guidance Documents;
- Irish Standards (I.S.);
- European Standards (EN);
- Eurocodes;
- NSAI Agrément Certificates;
- CE Marking requirements;
- Construction Products Regulation;
- Safety, Health and Welfare at Work legislation;
- Codes of Practice;
- Utility Providers' requirements.

Where differing standards apply, the more onerous requirement shall take precedence unless otherwise instructed.

1.9 COORDINATION OF THE WORKS

The Contractor shall coordinate all trades to ensure the completed Works are free from conflict.

This shall include coordination of:

- structural openings;
- partitions;
- ceilings;
- floor construction;
- windows;
- doors;
- lift installation;
- builder's work associated with services;
- fire stopping;
- finishes.

No element of the Works shall be installed until coordination has been completed.

SECTION 2 – PRELIMINARIES

2.1 GENERAL

2.1.1 Scope

This Section specifies the general obligations of the Contractor applicable to all elements of the Works.

It shall be read in conjunction with all other Contract Documents.

The requirements of this Section shall apply to every trade and subcontractor engaged on the project.

The Contractor shall be deemed to have examined all Contract Documents and shall immediately notify the Architect of any discrepancies.

Dimensions shall not be scaled from drawings.

Verify all dimensions on site before manufacture.

All setting out shall remain the Contractor's responsibility.

The Contractor shall coordinate all subcontractors.

2.1.2 Contractor's Responsibilities

The Contractor shall be responsible for the complete execution of the Works including:

- Programming and sequencing of the Works.
- Supervision of all personnel.
- Coordination of all subcontractors.
- Protection of existing buildings and services.
- Temporary works.
- Temporary weather protection.
- Quality control.
- Inspection of completed work.
- Testing and commissioning.
- Certification.
- Preparation of record information.
- Final cleaning.
- Handover.

2.1.3 Competency

All works shall be undertaken by competent personnel experienced in carrying out work of a similar nature.

Specialist installations shall be undertaken by manufacturers or installers approved by the product manufacturer where required to maintain warranties or certification.

Evidence of competency shall be provided upon request.

2.1.4 Quality of Materials

Unless otherwise specified:

- Materials shall be new.
- Materials shall be free from defects.
- Materials shall be suitable for their intended purpose.

- Materials shall comply with relevant Irish and European Standards.
- Materials shall be sourced from reputable manufacturers.
- Products shall carry CE Marking where applicable.

No second-hand or reclaimed materials shall be incorporated into the permanent Works unless expressly stated within the Contract Documents.

2.2 SITE MANAGEMENT

2.2.1 Site Establishment

Prior to commencing the Works provide:

- Site office.
- Welfare facilities.
- Temporary power.
- Temporary water.
- Secure storage.
- Waste storage.
- Fire extinguishers.
- First aid facilities.
- Site signage.
- Emergency contact information.

Maintain all temporary facilities for the duration of the Contract.

Remove upon completion.

2.2.2 Site Security

Maintain the site as a secure working area.

Prevent unauthorised access.

Secure all openings at the end of each working day.

Protect stored materials from theft, damage and weather.

2.2.3 Working Hours

Working hours shall be agreed with the Employer prior to commencement.

Works outside agreed hours shall require prior written approval.

Noisy operations shall be programmed to minimise disruption to adjoining occupied accommodation.

2.2.4 Site Cleanliness

Maintain the site in a clean, tidy and safe condition throughout the Works.

Waste shall not accumulate.

Working areas shall be cleaned daily.

Routes used by occupants shall remain clean and unobstructed.

2.3 EXISTING BUILDING

2.3.1 Protection

Protect all existing building fabric to remain.

Provide temporary protection to:

- Floors.
- Walls.
- Doors.
- Windows.
- Existing ceilings.
- Joinery.
- Existing finishes.

Remove protection only upon completion of adjacent works.

2.3.2 Existing Services

Locate all existing services prior to commencement.

Protect services to remain.

Any damage shall be immediately reported.

Repair or replace damaged services without delay and at no additional cost to the Employer.

2.3.3 Existing Fire Precautions

Maintain the integrity of the existing fire strategy throughout construction.

Do not disable fire alarm systems, emergency lighting or fire doors without prior approval.

Provide temporary fire protection where existing fire resisting construction is disturbed.

Maintain safe escape routes at all times.

2.4 TEMPORARY WORKS

The Contractor shall design, provide, inspect, maintain and remove all temporary works required to safely execute the Contract.

Temporary works include, but are not limited to:

- Propping.
- Hoardings.
- Edge protection.
- Temporary supports.
- Temporary roofs.
- Temporary weatherproofing.
- Temporary partitions.
- Access scaffolding.
- Mobile access equipment.
- Temporary barriers.

Temporary works shall be designed by competent persons where required.

2.5 PROTECTION OF THE WORKS

Protect completed work against:

- Impact damage.
- Moisture.
- Dust.
- UV exposure.
- Temperature extremes.
- Vandalism.

Replace damaged work before Practical Completion.

2.6 DUST CONTROL

Implement dust suppression measures throughout the Works.

Measures shall include, where appropriate:

- Dust screens.
- Temporary partitions.
- Negative pressure extraction.
- Local extraction.
- Vacuum extraction.
- Protection of ventilation systems.
- Daily cleaning.

Dust migration into occupied accommodation shall not be permitted.

2.7 NOISE & VIBRATION

Plan the Works to minimise disruption.

Particularly noisy operations shall be agreed in advance with the Employer.

Provide temporary acoustic screening where necessary.

2.8 ENVIRONMENTAL MANAGEMENT

The Contractor shall:

- Prevent pollution.
- Prevent discharge of contaminants.
- Prevent unnecessary waste.
- Minimise energy consumption.
- Minimise water consumption.
- Segregate waste streams.
- Comply with all environmental legislation.

2.9 WASTE MANAGEMENT

Remove waste regularly.

Do not burn waste.

Dispose of waste at licensed facilities.

Maintain records of waste transfer.

Recycle materials wherever reasonably practicable.

2.10 QUALITY MANAGEMENT

This is where I think your specification will begin to distinguish itself from others.

Every contractor shall prepare and submit:

- Construction Programme.
- Method Statements.
- Inspection & Test Plan (ITP).
- Material Submittals.
- Product Data Sheets.
- Sample Register.
- Shop Drawings.
- Inspection Requests.
- Quality Records.
- Handover Programme.

Approval of these documents shall not relieve the Contractor of responsibility for the Works

SECTION 3 – DEMOLITION & STRIP-OUT

3.1 Scope

This section covers the selective demolition, removal and strip-out works necessary to facilitate the proposed alterations.

The Contractor shall undertake all demolition works required to complete the project, including all temporary works, protection measures, service isolations, waste disposal and making good.

The Works shall be carried out in a controlled manner to minimise disruption to the existing building and adjacent occupied areas.

The Contractor shall ensure that the stability, weather tightness and fire integrity of the existing building are maintained throughout the Works.

3.2 Existing Conditions

Prior to commencing demolition, the Contractor shall:

- Inspect the existing building.
- Verify all dimensions and existing construction.
- Confirm the location of structural elements.
- Identify existing services.
- Record existing defects that may be affected by the Works.
- Report any discrepancies between the Contract Documents and site conditions to the Architect.

No demolition shall commence until all necessary surveys and service isolations have been completed.

3.3 Existing Services

Prior to any demolition works:

- Locate all existing services.
- Clearly identify services to remain.
- Disconnect, isolate and make safe services affected by the Works.
- Maintain all services required for continued occupation of the building.
- Protect live services from damage.

No service shall be removed or permanently disconnected without written approval from the Architect and the relevant service engineer.

3.4 Protection of Existing Building

Provide temporary protection to all areas affected by the Works including:

- Floors.
- Walls.
- Doors.
- Windows.
- Existing ceilings.
- Joinery.
- Fixtures.
- Fittings.
- Existing services.

Provide dust barriers, temporary partitions and floor protection where required.

Immediately repair or replace any damage caused during the Works.

3.5 Temporary Structural Stability

Where demolition affects loadbearing construction, the Contractor shall:

- Implement all temporary works detailed by the Structural Engineer.
- Provide temporary propping before removing any structural element.
- Maintain stability of the building at all times.
- Sequence demolition to avoid overloading or destabilising existing construction.

Temporary works shall be designed where required by a competent temporary works designer.

3.6 Demolition Workmanship

Carry out demolition in a controlled manner.

The use of excessive force or uncontrolled demolition techniques will not be permitted.

Saw cutting shall be used where clean edges are required.

Existing construction to remain shall not be damaged.

Materials designated for reuse shall be carefully removed, stored and protected.

3.7 Removal of Existing Building Elements

Remove existing building elements as indicated on the Contract Drawings including, where applicable:

- Internal partitions.
- Doors and frames.
- Windows.
- Suspended ceilings.
- Floor finishes.
- Wall finishes.
- Fixtures and fittings.
- Redundant builder's work.
- Redundant supports.
- Existing structural elements where shown.

Items identified for reuse shall be removed without damage and stored safely.

3.8 Formation of Openings

Form new openings through existing walls, floors and ceilings as indicated on the Contract Drawings.

Provide temporary support where necessary.

All cutting shall be carried out using appropriate mechanical cutting equipment to produce clean, accurate openings.

Make good disturbed edges ready to receive new construction.

3.9 Dust, Noise and Vibration Control

Implement suitable measures throughout the demolition works to minimise nuisance to building occupants and neighbouring properties.

Measures shall include:

- Temporary dust screens.
- Local dust extraction.
- Wet cutting where appropriate.
- Daily cleaning of work areas.
- Protection of ventilation systems.
- Noise reduction measures.
- Sequencing of noisy operations.

The Contractor shall monitor the effectiveness of control measures and adjust them where necessary.

3.10 Waste Management

Segregate demolition waste into appropriate waste streams.

Remove waste regularly to prevent accumulation.

Transport waste only by licensed waste carriers.

Dispose of waste at authorised facilities.

Maintain waste transfer records for inspection.

Where practical, materials suitable for recycling shall be separated from general waste.

3.11 Making Good

Upon completion of demolition works:

- Remove all debris.

- Make good disturbed surfaces.
- Repair accidental damage.
- Prepare existing construction to receive new work.
- Leave all retained elements clean and ready for the next phase of construction.

3.12 Quality Requirements

The completed demolition works shall:

- Leave existing construction sound and undamaged.
- Maintain structural stability.
- Maintain weather tightness.
- Maintain fire compartmentation where required.
- Be free from unnecessary damage.
- Be ready to receive subsequent construction works.

3.13 Contractor Submittals

Prior to commencement:

- Method Statement for Demolition.
- Sequence of Works.
- Temporary Works Proposals (where applicable).
- Service Isolation Plan.
- Waste Management Plan.
- Risk Assessments.

During the Works:

- Records of service isolations.
- Temporary works inspection records.
- Waste transfer documentation.

At completion:

- Confirmation that demolition works are complete.

- Confirmation that all temporary supports have been removed where appropriate.
- Confirmation that areas are ready to receive new construction.

SECTION 4 – SUBSTRUCTURE & CONCRETE WORKS

4.1 Scope

This section covers all excavation, foundation, concrete and associated substructure works required to complete the project, including builder's work associated with structural steel supports, platform lift installation and alterations to the existing structure.

Concrete works shall include all excavation, disposal of spoil, temporary support, reinforcement, formwork, concrete placement, curing, testing, making good and reinstatement necessary for the complete execution of the Works.

4.2 Standards

The Works shall comply with the latest editions of:

- I.S. EN 206 – Concrete – Specification, Performance, Production and Conformity.
- I.S. 8500 – Concrete – Complementary Irish Standard.
- Eurocode 2 – Design of Concrete Structures.
- National Annexes.
- Building Regulations.
- Structural Engineer's Drawings and Details.

4.3 Existing Foundations

Prior to excavation:

- Confirm the location of existing foundations.
- Confirm existing formation levels.
- Notify the Architect and Structural Engineer where existing construction differs from that shown on the Contract Documents.

- Do not undermine existing foundations.

Where excavation adjacent to existing foundations is required, provide temporary support where necessary to maintain stability.

4.4 Excavation

Carry out excavations only to the extent necessary to complete the Works.

Formation levels shall be inspected prior to placing concrete.

Soft spots or disturbed ground shall be removed and replaced as directed by the Structural Engineer.

Excavations shall be kept free from water.

4.5 Formation Inspection

No concrete shall be placed until:

- excavation has reached the required founding level;
- bearing strata has been inspected where required;
- loose material has been removed;
- standing water has been removed;
- reinforcement has been inspected.

4.6 Reinforcement

Reinforcement shall:

- comply with the Structural Engineer's drawings;
- be securely fixed;
- be adequately supported;
- maintain specified concrete cover;
- remain clean prior to concrete placement.

Cutting or bending reinforcement on site shall not be undertaken unless approved by the Structural Engineer.

4.7 Concrete

Concrete shall:

- be supplied by an approved ready-mix supplier;
- comply with the specified strength class;
- be placed immediately following delivery;
- be fully compacted;
- be adequately cured;
- be protected against frost, drying and impact.

Do not place concrete during adverse weather unless suitable protection is provided.

4.8 Formwork

Formwork shall:

- maintain dimensional accuracy;
- prevent grout loss;
- adequately support wet concrete;
- remain in place until sufficient strength has developed.

Remove formwork carefully to prevent damage.

4.9 Concrete Finishes

Finished concrete shall:

- be true to line and level;
- be free from honeycombing;
- be free from excessive cracking;
- provide suitable surfaces for subsequent finishes.

Defective concrete shall be repaired only with the approval of the Structural Engineer.

4.10 Builder's Work

Provide all concrete works associated with:

- structural steel bases;

- holding down bolts;
- platform lift support;
- service penetrations;
- making good around structural alterations.

Coordinate all builder's work with the Structural Engineer and specialist suppliers.

4.11 Protection

Protect newly placed concrete from:

- frost;
- rain;
- rapid drying;
- impact;
- vibration;
- premature loading.

4.12 Quality Requirements

Completed concrete works shall:

- comply with specified dimensions;
- achieve specified strength;
- provide correct levels;
- receive subsequent construction without additional remedial work.

4.13 Contractor Submittals

Prior to construction:

- Concrete mix design (if requested).
- Reinforcement details (where applicable).
- Method Statement.

During construction:

- Concrete delivery dockets.
- Reinforcement inspection requests.
- Cube test results (where specified).
- Holding down bolt survey records.

At completion:

- Concrete test records.
- As-built setting out information (where required).

4.14 Inspection Hold Points

The following works shall not proceed until inspected where required by the Architect and/or Structural Engineer:

Hold Point	Inspection
Excavation complete	Formation inspection
Reinforcement fixed	Reinforcement inspection
Holding down bolts installed	Position and level check
Concrete placed	Visual inspection
Concrete cured	Prior to loading

SECTION 5 – STRUCTURAL ALTERATIONS

5.1 Scope

This section covers all structural alteration works required for the execution of the project, including temporary support, alterations to the existing structure, installation of structural steelwork, formation of new structural openings, construction of the intermediate floor support structure, builder's work associated with the platform lift and all associated works necessary to complete the Contract.

The Structural Engineer's drawings define the structural design. This specification defines the required standards of workmanship, coordination, inspection, testing and completion

5.2 Related Documents

Read this Section in conjunction with:

- Architectural Drawings
- Structural Engineer's Drawings
- Structural Engineer's Specifications
- Sections 3 and 4 of this Specification
- Platform Lift Details
- Fire Protection Requirements (Section 14)
- Testing & Certification (Section 20)

5.3 Performance Requirements

The completed structural works shall:

- safely support all design loads;
- comply with the Structural Engineer's design;
- maintain the stability of the existing structure throughout construction;
- satisfy the required fire resistance period;
- permit installation of associated architectural and building services elements;
- achieve specified dimensional tolerances.

No modification to the Structural Engineer's design shall be permitted without written approval.

5.4 Temporary Works

Prior to commencement, prepare a temporary works methodology for all structural alterations.

Temporary works shall include, where applicable:

- propping;
- needling;
- temporary beams;
- temporary bracing;

- working platforms;
- lifting arrangements;
- temporary weather protection.

Temporary works shall be designed where required by a suitably qualified Temporary Works Designer.

The Contractor shall remain responsible for the adequacy of all temporary works.

5.5 Existing Structure

Prior to commencing structural alterations:

- verify existing dimensions;
- confirm structural arrangement;
- identify any concealed structural members;
- inspect existing masonry for defects;
- confirm bearing locations;
- report discrepancies immediately.

No assumptions shall be made regarding the existing construction.

5.6 Formation of Structural Openings

Openings through existing structural elements shall be formed strictly in accordance with the Structural Engineer's details.

Provide temporary support prior to removing any loadbearing construction.

Saw cutting shall be used wherever practicable to produce clean, accurate edges.

Do not overload remaining structural elements during the execution of the Works.

5.7 Structural Steelwork

Supply and erect all structural steelwork as indicated on the Structural Engineer's drawings.

Structural steelwork shall include:

- universal beams;

- universal columns;
- parallel flange channels where specified;
- hollow structural sections;
- connection plates;
- cleats;
- stiffeners;
- holding down bolts;
- base plates;
- packers;
- shims;
- ancillary steelwork.

Fabrication shall comply with **EN 1090** and be undertaken by a certified execution class contractor appropriate to the works.

All steelwork shall carry CE marking and be supplied with the required Declaration of Performance.

5.8 Connections

Connections shall be fabricated in accordance with the Structural Engineer's details.

Site drilling or modification of structural steelwork shall not be undertaken without written approval.

All bolts shall be installed in accordance with the manufacturer's recommendations.

Torque-controlled bolts shall be tightened using calibrated equipment where specified.

5.9 Installation

Prior to erection:

- verify holding down bolt locations;
- verify foundation levels;
- verify dimensions.

Erect steelwork plumb, level and within specified tolerances.

Provide temporary bracing until the permanent structure is complete.

Do not remove temporary bracing until authorised.

5.10 Timber Interface

Coordinate structural steelwork with:

- timber floor joists;
- joist hangers;
- blocking;
- decking;
- fire protection;
- service penetrations.

Ensure that tolerances permit installation of the intermediate floor without remedial work.

5.11 Fire Protection

Provide fire protection to structural elements where required to achieve the specified fire resistance period.

Fire protection systems shall be installed strictly in accordance with the tested proprietary system.

Refer to **Section 14 – Passive Fire Protection**.

5.12 Builder's Work

Provide all builder's work associated with structural alterations including:

- pockets;
- padstones;
- grout;
- making good;
- sleeves;
- fire stopping;

- trimming;
- temporary weatherproofing.

Coordinate all builder's work with architectural and building services requirements.

5.13 Tolerances

Completed structural works shall achieve:

- line and level within recognised structural tolerances;
- correct bearing lengths;
- correct bolt positioning;
- correct holding down bolt projection;
- correct floor levels.

Any work outside tolerance shall be reported immediately.

5.14 Protection

Protect completed structural elements from:

- corrosion;
- impact;
- moisture;
- contamination;
- unauthorised modification.

Do not cut, notch or drill completed structural members without written approval from the Structural Engineer.

5.15 Inspection Requirements

The following stages shall be available for inspection:

- completion of temporary works;
- holding down bolts;
- commencement of steel erection;

- completion of steel frame;
- completion of structural timber installation;
- fire protection;
- completion of structural alterations.

Covering up of work prior to inspection shall not be permitted without approval.

5.16 Contractor Submittals

Prior to commencement:

- Structural steel shop drawings.
- Fabrication drawings.
- Temporary works proposals.
- Method Statement.
- Lifting plan.
- Programme.

During construction:

- CE certificates.
- Declaration of Performance.
- Fabrication certificates.
- Welding certificates.
- Bolt certificates.
- Inspection requests.
- Engineer's inspection records.

At completion:

- Structural completion records.
- Record drawings.
- Survey information where required.

5.17 Completion Requirements

Before Practical Completion:

- all structural works shall be complete;
- all temporary works removed;
- fire protection completed;
- all certification submitted;
- all inspection records completed;
- structural engineer's inspections concluded in accordance with the agreed inspection plan.

SECTION 6 – INTERMEDIATE FLOOR CONSTRUCTION

6.1 Scope

This section covers the construction of the new intermediate first floor within the existing building, including the structural floor system, decking, fire-resisting ceiling, acoustic insulation, trimming to openings, builder's work associated with the platform lift and stair openings, service penetrations and all associated works.

The completed floor construction shall provide a stable, durable and level structure suitable for office accommodation and shall achieve the required structural, fire and acoustic performance

6.2 Related Documents

Read this Section in conjunction with:

- Architectural Drawings
- Structural Engineer's Drawings
- Structural Calculations
- Door Schedule
- Reflected Ceiling Plans
- Fire Safety Certificate
- Sections 5, 8, 14 and 20 of this Specification.

6.3 Performance Requirements

The completed floor construction shall:

- Support all imposed and dead loads specified by the Structural Engineer.
- Provide a minimum **60-minute fire resistance**.
- Achieve the required acoustic separation between occupied spaces.
- Limit vibration and deflection appropriate for office accommodation.
- Provide a stable substrate for floor finishes.
- Accommodate mechanical and electrical services without compromising structural or fire performance.
- Maintain continuity of compartmentation at all junctions.

6.4 Structural Floor Construction

Construct the intermediate floor in accordance with the Structural Engineer's drawings.

The structural floor may comprise:

- Structural steel primary beams.
- Secondary steel members where required.
- Timber floor joists.
- Joist hangers.
- Rim beams.
- Blocking and restraint.
- Structural decking.
- Trimmers to openings.
- Connection brackets.
- Fixings.

No substitutions shall be made without written approval from the Structural Engineer.

6.5 Timber Construction

All structural timber shall:

- Be strength graded in accordance with the Structural Engineer's specification.

- Be straight, true and free from significant defects.
- Be stored clear of the ground and protected from moisture.
- Be installed using approved proprietary fixings and connectors.

Cutting, notching or drilling of structural members shall not be carried out unless detailed by the Structural Engineer.

6.6 Structural Decking

Provide structural decking in accordance with the Structural Engineer's details.

Decking shall:

- Be securely fixed.
- Provide a level working platform.
- Be protected from moisture prior to enclosure.
- Be installed with staggered joints where applicable.
- Be suitable for the specified floor finish.

6.7 Fire Resisting Floor Construction

Construct the floor as a complete tested fire-resisting system.

The system shall include:

- Structural floor.
- Fire-rated ceiling.
- Fire-rated perimeter details.
- Fire stopping.
- Service penetration protection.
- Proprietary fixing systems.
- Edge details.

All components shall be installed in accordance with the tested manufacturer's system.

Mixing components from different proprietary systems shall not be permitted unless supported by certification.

6.8 Acoustic Performance

Provide acoustic insulation within the floor construction as detailed on the drawings.

Install insulation tightly between joists with no gaps or compression.

Seal perimeter junctions to minimise flanking sound transmission.

6.9 Openings

Trim all openings required for:

- Platform lift.
- Stair openings.
- Service risers.
- Ductwork.
- Pipework.
- Electrical risers.

Provide additional structural framing where required.

Coordinate opening sizes with all trades before fabrication.

6.10 Service Coordination

Prior to installation of the floor construction:

- Coordinate all service routes.
- Confirm penetration locations.
- Confirm access panel locations.
- Confirm recessed service requirements.
- Confirm ceiling support locations.

No structural members shall be modified to accommodate services without written approval.

6.11 Fire Stopping

Provide fire stopping to all:

- Service penetrations.

- Junctions.
- Perimeter interfaces.
- Lift openings.
- Structural penetrations.

Refer to Section 14.

6.12 Ceiling Interface

Coordinate the intermediate floor with:

- Suspended ceilings.
- Bulkheads.
- Access panels.
- Lighting.
- Mechanical services.
- Electrical containment.

Ensure sufficient space is available for all services shown on the Contract Drawings.

6.13 Moisture Protection

Protect timber and decking from rain during construction.

Do not enclose wet materials.

Replace materials showing evidence of swelling, distortion or fungal growth.

6.14 Quality Requirements

Completed floor construction shall:

- Be level.
- Be rigid under normal occupancy.
- Be free from excessive vibration.
- Be free from squeaks and movement.
- Achieve the specified fire resistance.

- Achieve the specified acoustic performance.
- Provide accurate levels for floor finishes.

6.15 Inspection Requirements

The following stages shall be available for inspection:

- Structural steel complete.
- Timber joists installed.
- Trimmers complete.
- Structural decking complete.
- Acoustic insulation installed.
- Service coordination complete.
- Fire stopping complete.
- Ceiling system prior to boarding.
- Fire-rated ceiling complete.

No work shall be concealed prior to inspection where inspection has been requested.

6.16 Contractor Submittals

Prior to Construction

- Floor construction details.
- Product data sheets.
- Fire test certification for floor system.
- Acoustic performance data.
- Shop drawings where required.
- Method Statement.

During Construction

- Inspection requests.
- Delivery records.
- Fire stopping records.

- Installation records.

At Completion

- Product warranties.
- Fire certification.
- Acoustic certification (where specified).
- Record drawings.
- O&M information.

6.17 Completion Requirements

Prior to Practical Completion:

- The complete floor shall be structurally complete.
- Fire compartmentation shall be complete.
- Fire stopping shall be complete.
- All services shall be coordinated.
- No visible defects shall remain.
- All certification shall be submitted in accordance with Section 20.

SECTION 7 – EXTERNAL ENVELOPE (WINDOWS, EXTERNAL DOORS & BUILDING FABRIC ALTERATIONS)

7.1 Scope

This section covers alterations to the existing external envelope, including the formation of new window and door openings, installation of new external windows and doors, associated structural support, cavity closures, flashings, weatherproofing, insulation, airtightness measures, sealing and making good.

The completed works shall provide a durable, weather-tight, thermally efficient and secure external envelope.

7.2 Related Documents

Read this Section in conjunction with:

- Architectural Drawings.

- Window Schedule.
- Door Schedule.
- Structural Engineer's Drawings.
- Fire Safety Certificate.
- Disability Access Certificate.
- Partitions (Section 8).
- Internal Finishes (Section 12).

7.3 Performance Requirements

The completed external envelope shall:

- Resist wind and weather.
- Prevent water penetration.
- Achieve the thermal performance required by the Building Regulations.
- Maintain continuity of insulation and airtightness.
- Prevent uncontrolled air leakage.
- Accommodate differential movement.
- Provide secure fixing to the supporting structure.
- Integrate with the existing construction without evidence of water ingress.

7.4 Existing Openings

Where new openings are formed:

- Verify dimensions prior to commencement.
- Confirm structural supports are installed before removing existing construction.
- Saw cut masonry to produce clean, straight edges.
- Protect adjacent finishes from damage.
- Remove debris from cavities.
- Make good disturbed construction.

7.5 New Windows

Provide new windows as scheduled on the Contract Drawings.

Windows shall:

- Be factory fabricated.
- Be CE marked.
- Incorporate safety glazing where required.
- Be complete with all ironmongery, restrictors, weather seals and fixings.
- Be installed plumb, level and square.
- Be fully operational on completion.

7.6 Installation

Install windows in accordance with the manufacturer's published installation guidance.

Provide:

- Packers.
- Mechanical fixings.
- Air seals.
- Weather seals.
- Internal perimeter seals.
- External perimeter seals.
- DPCs.
- Cavity closers.
- Thermal breaks where required.

Do not rely solely on expanding foam for fixing or weather sealing.

7.7 Lintels and Structural Supports

Provide lintels and structural supports in accordance with the Structural Engineer's details.

Ensure minimum bearing lengths are achieved.

Protect exposed steelwork where required.

Make good disturbed finishes following installation.

7.8 Flashings and Weatherproofing

Provide all flashings, cavity trays, DPCs and weathering components necessary to ensure the completed installation is weather-tight.

Interfaces with the existing building shall be sealed using compatible proprietary systems.

7.9 Airtightness

Maintain continuity of the building airtightness layer.

Seal all junctions between new and existing construction.

Seal around:

- Frames.
- Lintels.
- Cills.
- Structural penetrations.

Airtightness materials shall be compatible with adjoining construction.

7.10 Thermal Continuity

Avoid thermal bridging.

Maintain continuity of insulation around:

- Window reveals.
- Door reveals.
- Lintels.
- Structural steel.
- Cavity closures.

7.11 Quality Requirements

Completed installations shall:

- Be plumb and level.
- Operate freely.
- Be weather-tight.
- Be airtight.
- Be free from distortion.
- Be free from visible damage.
- Provide a neat, consistent appearance internally and externally.

7.12 Inspection Requirements

Inspection shall be carried out at the following stages:

- Opening prepared.
- Structural support installed.
- Window frame installed prior to sealing.
- Airtightness measures installed.
- External weatherproofing complete.
- Internal making good complete.

7.13 Contractor Submittals

Prior to Installation

- Product data.
- Window schedules.
- Shop drawings where required.
- Samples if requested.
- Installation method statement.

During Installation

- Inspection requests.
- Delivery records.

- Installation records.

At Completion

- Warranty documentation.
- Product certification.
- Operation and maintenance information.
- Record information where applicable.

7.14 Completion Requirements

The completed external envelope shall:

- Be fully weather-tight.
- Be complete with all trims and seals.
- Be free from defects.
- Require no further adjustment.
- Be cleaned internally and externally.
- Be protected until Practical Completion.

SECTION 8 – INTERNAL PARTITIONS

8.1 Design Intent

The internal partition systems shall define the internal layout of the building and provide robust, durable construction suitable for an office environment.

Partitions shall achieve the fire resistance, acoustic performance, impact resistance and finish requirements indicated on the Contract Drawings while accommodating concealed building services and allowing for future maintenance.

The completed installation shall form part of an integrated building system and shall coordinate with structural elements, suspended ceilings, doors, glazing and building services.

8.2 Scope

This section includes:

- Metal stud partition systems.
- Fire-resisting partitions.
- General office partitions.
- Corridor partitions.
- Service risers.
- Partition framing.
- Plasterboard linings.
- Acoustic insulation.
- Head, base and perimeter details.
- Deflection heads.
- Trimming around openings.
- Service penetrations.
- Junctions with existing construction.
- Making good.

8.3 Related Documents

Read in conjunction with:

- Architectural Drawings.
- Reflected Ceiling Plans.
- Door Schedule.
- Fire Strategy Drawings.
- Structural Engineer's Drawings.
- Mechanical & Electrical Drawings.
- Section 10 – Suspended Ceilings.
- Section 11 – Doors & Ironmongery.
- Section 14 – Passive Fire Protection.

8.4 Performance Requirements

Partition systems shall:

- Achieve the specified fire resistance.
- Achieve the specified acoustic performance.
- Resist normal impact associated with office occupancy.
- Provide a stable substrate for finishes.
- Accommodate services without compromising performance.
- Allow movement of the supporting structure where required.
- Remain free from visible cracking or distortion.

8.5 Materials

Provide complete proprietary partition systems comprising:

- Galvanised steel framing.
- Head and floor tracks.
- Vertical studs.
- Noggings and reinforcement where required.
- Fire-rated plasterboard.
- Moisture-resistant boards where required.
- Acoustic quilt insulation.
- Proprietary fixings.
- Jointing materials.
- Flexible perimeter seals.
- Deflection head details where required.

All components shall be supplied as a compatible system by a single manufacturer.

8.6 Installation

Install partitions in accordance with the manufacturer's published recommendations.

Set out partitions accurately.

Construct partitions plumb, level and square.

Provide additional framing to support:

- Doors.
- Vision panels.
- Joinery.
- Wall-mounted equipment.
- Whiteboards.
- Shelving.
- Television brackets.
- Radiators.
- Building services.

Coordinate fixing locations before boarding.

8.7 Fire-Resisting Partitions

Fire-resisting partitions shall:

- Be constructed as complete tested systems.
- Achieve the fire resistance specified on the Contract Drawings.
- Extend to the required compartment line.
- Incorporate approved head details.
- Include all required cavity barriers.
- Maintain continuity at all junctions.

No substitution of system components shall be permitted unless supported by equivalent test evidence acceptable to the Architect.

8.8 Acoustic Partitions

Install acoustic insulation tightly within partition cavities.

Ensure insulation remains continuous.

Seal all perimeter junctions.

Avoid rigid connections which could create sound bridges.

Maintain acoustic performance around:

- Socket outlets.
- Switches.
- Service penetrations.
- Junction boxes.

8.9 Openings

Provide structural reinforcement around:

- Door openings.
- Glazed screens.
- Service access panels.
- Recessed cabinets.
- Electrical panels.

Coordinate opening sizes with all related trades.

8.10 Service Coordination

Prior to boarding:

- Confirm service routes.
- Confirm switch locations.
- Confirm socket locations.
- Confirm data outlet locations.
- Confirm plumbing penetrations.
- Confirm fire alarm devices.
- Confirm access panel requirements.

No boarding shall commence until service roughing-in has been completed.

8.11 Junctions

Form neat junctions between partitions and:

- Existing walls.

- Structural steel.
- Concrete.
- Ceilings.
- Floors.
- Windows.
- External walls.

Seal all gaps.

Maintain fire and acoustic performance.

8.12 Finishes

Prepare plasterboard surfaces ready to receive decoration.

Jointing shall produce smooth, uniform surfaces free from:

- Ridging.
- Cracking.
- Joint shadowing.
- Nail popping.
- Surface irregularities.

8.13 Quality Requirements

Completed partitions shall:

- Be plumb within **±3 mm over 2.0 m**.
- Be securely fixed.
- Be free from movement.
- Be free from visible cracking.
- Have straight, true junctions.
- Be ready to receive finishes.
- Achieve the specified fire and acoustic performance.

8.14 Inspection Requirements

Inspection shall be undertaken at the following stages:

Inspection Stage	Hold Point
Partition setting out	✓
Framing complete	✓
Services installed	✓
Insulation installed	✓
Fire stopping at junctions	✓
First side boarded	✓
Second side boarded	✓
Jointing complete	✓

8.15 Contractor Submittals

Prior to Installation

- Product data sheets.
- Manufacturer's installation details.
- Fire test certification.
- Acoustic test data.
- Shop drawings where required.
- Method statement.

During Construction

- Inspection requests.
- Photographs of concealed construction.
- Fire stopping records.

At Completion

- Product warranties.
- Fire certification.

- Acoustic certification (where applicable).
- As-built information.

8.16 Common Causes of Defects

The Contractor shall implement quality control procedures to avoid:

- Misaligned framing.
- Bowed partitions.
- Missing insulation.
- Incorrect head details.
- Poorly formed junctions.
- Cracked joints.
- Inadequate support to wall-mounted fixtures.
- Unsealed service penetrations.
- Gaps compromising fire or acoustic performance.

8.17 Completion Requirements

Prior to Practical Completion:

- All partitions shall be complete.
- Fire stopping shall be complete.
- Services shall be fully coordinated.
- Surfaces shall be ready for decoration.
- No visible defects shall remain.
- All required documentation shall be submitted.

SECTION 9 – PLATFORM LIFT

9.1 Scope

This section covers all works associated with the installation of the platform lift, including all builder's work, structural support, lift enclosure, associated finishes, coordination with specialist lift contractor, commissioning, certification and handover.

The lift supplier shall provide the complete platform lift installation. The Main Contractor shall coordinate the lift installation and provide all associated builder's work necessary for a complete and operational installation.

9.2 Related Documents

Read this Section in conjunction with:

- Architectural Drawings.
- Structural Engineer's Drawings.
- Lift Supplier's Drawings and Specification.
- Mechanical & Electrical Drawings.
- Disability Access Certificate.
- Fire Safety Certificate.
- Sections 5, 8, 10, 14, 15 and 17 of this Specification.

9.3 Design Requirements

The completed installation shall:

- Provide safe and independent vertical access between ground and first floor levels.
- Comply with the Disability Access Certificate.
- Integrate with the building fire strategy.
- Be fully coordinated with the structural and architectural works.
- Be fully operational at Practical Completion.
- Be installed strictly in accordance with the lift manufacturer's requirements.

9.4 Builder's Work

The Main Contractor shall provide all builder's work associated with the lift installation including, but not limited to:

- Formation of lift opening.
- Structural trimming.
- Lift pit (where required).

- Concrete bases.
- Builder's work associated with guide rail fixings.
- Forming recesses.
- Lift enclosure construction.
- Fire stopping.
- Making good.
- Finishes around lift openings.
- Protection of completed lift installation.

All builder's work shall be completed in accordance with the lift manufacturer's drawings and the Structural Engineer's details.

9.5 Lift Shaft / Enclosure

Construct the lift enclosure in accordance with the Architectural Drawings and the lift manufacturer's requirements.

The enclosure shall:

- Be structurally stable.
- Achieve the specified fire resistance.
- Accommodate all guide rails and lift equipment.
- Provide the clear dimensions required by the lift manufacturer.
- Be complete with all support framing and fixings.
- Be ready to receive the lift installation.

9.6 Structural Coordination

Coordinate all structural works with the lift supplier prior to fabrication of structural steelwork.

Confirm:

- Support locations.
- Fixing centres.
- Clear internal dimensions.

- Headroom.
- Landing levels.
- Pit depth (where applicable).
- Structural loading.

No structural alterations shall be carried out without the approval of the Structural Engineer.

9.7 Building Services Coordination

Coordinate the lift installation with the Mechanical and Electrical Contractor to ensure provision of:

- Electrical power supply.
- Emergency isolation.
- Telephone or emergency communication systems.
- Fire alarm interface (where required).
- Emergency lighting.
- Smoke detection (where required).
- Ventilation requirements.
- Access for maintenance.

9.8 Fire Protection

Provide fire stopping at all penetrations through fire-resisting construction associated with the lift installation.

Maintain the fire resistance of floors, walls and ceilings surrounding the lift enclosure.

All fire stopping shall be carried out using tested proprietary systems in accordance with Section 14 of this Specification.

9.9 Finishes

Complete all architectural finishes surrounding the lift installation including:

- Wall finishes.

- Floor finishes.
- Skirtings.
- Ceiling finishes.
- Decoration.
- Trims.
- Sealants.

Provide neat, consistent junctions between lift components and adjacent building elements.

9.10 Protection

Protect the lift installation from damage throughout the construction period.

The lift shall not be used for transporting construction materials unless expressly permitted by the lift supplier and the Employer.

Any damage shall be repaired prior to Practical Completion.

9.11 Inspection Requirements

Inspection shall be undertaken at the following stages:

Inspection Stage	Hold Point
Lift opening formed	✓
Structural supports complete	✓
Lift enclosure complete	✓
Builder's work complete	✓
Lift installation complete	✓
Fire stopping complete	✓
Finishes complete	✓
Final commissioning	✓

9.12 Contractor Submittals

Prior to Installation

- Lift manufacturer's drawings.
- Builder's work drawings.
- Structural loading information.
- Installation programme.
- Method statement.
- Product data sheets.

During Construction

- Inspection requests.
- Coordination drawings.
- Installation records.
- Fire stopping records.

At Completion

- CE Declaration of Conformity.
- Commissioning Certificate.
- Load test certificate.
- Emergency lowering test records.
- Warranty documentation.
- Maintenance recommendations.
- Operating instructions.
- Training records.
- Operation and Maintenance Manual.
- As-installed drawings.

9.13 Quality Requirements

The completed installation shall:

- Operate smoothly throughout its full travel.

- Stop level with each landing.
- Be free from vibration, noise or abnormal movement.
- Have all safety devices operational.
- Be fully integrated with the building finishes.
- Be clean, free from damage and ready for immediate use.

9.14 Completion Requirements

Prior to Practical Completion:

- The platform lift shall be fully installed and operational.
- All commissioning shall be complete.
- All statutory inspections shall be completed.
- All certification shall be submitted.
- User training shall be completed.
- Maintenance documentation shall be handed over.
- All surrounding builder's work and finishes shall be complete.

SECTION 10 – INTERNAL DOORS, GLAZED SCREENS & IRONMONGERY

10.1 Scope

This section covers the supply, installation and commissioning of all internal doors, frames, glazed screens, vision panels, fanlights, ironmongery, fire-rated doorsets, seals, signage and associated joinery required for the complete execution of the Works.

Provide complete factory manufactured doorsets unless otherwise noted on the Contract Drawings.

10.2 Related Documents

Read this Section in conjunction with:

- Architectural Drawings
- Door Schedule
- Fire Safety Certificate
- Disability Access Certificate

- Reflected Ceiling Plans
- Section 8 – Internal Partitions
- Section 12 – Internal Finishes
- Section 14 – Passive Fire Protection
- Section 17 – Testing, Commissioning & Certification

10.3 Design Intent

The internal doors and glazed screens shall:

- Provide safe and convenient access throughout the building.
- Form part of the building fire compartmentation strategy where required.
- Meet the accessibility requirements of the Disability Access Certificate.
- Provide durable, low-maintenance construction suitable for an office environment.
- Coordinate with partitions, ceilings and floor finishes.
- Be complete with all ironmongery and ancillary components necessary for normal operation.

10.4 General Requirements

Provide complete doorsets including:

- Door leaf.
- Frame.
- Architraves.
- Stops.
- Ironmongery.
- Hinges.
- Door closers.
- Vision panels.
- Smoke seals.
- Intumescent seals.

- Thresholds.
- Signage.
- Door numbering.

Doors shall be factory finished unless otherwise scheduled.

10.5 Fire Doors

Fire-resisting doors shall:

- Be complete certified doorsets.
- Achieve the fire resistance shown on the Door Schedule.
- Be supplied with compatible certified frames and ironmongery.
- Incorporate intumescent and smoke seals.
- Be installed in accordance with the manufacturer's certification.
- Include certification labels that remain visible following installation.

No component shall be substituted unless supported by equivalent certification acceptable to the Architect.

10.6 Glazed Screens & Vision Panels

Glazed screens and vision panels shall:

- Be installed as tested systems where forming part of a fire-resisting construction.
- Incorporate safety glazing where required.
- Be free from distortion, scratches and defects.
- Be securely fixed.
- Maintain the required fire resistance where applicable.

10.7 Ironmongery

Provide all ironmongery scheduled on the Contract Drawings.

Ironmongery shall include:

- Hinges.

- Lever handles.
- Locks.
- Latches.
- Cylinders.
- Door closers.
- Hold-open devices where specified.
- Kick plates.
- Pull handles.
- Door stops.
- Threshold strips.
- Floor springs where required.
- Door selectors (double doors where applicable).
- Emergency release hardware where required.

All ironmongery shall be suitable for the intended duty and compatible with the door certification.

10.8 Accessibility

Door installations shall comply with the Disability Access Certificate.

Provide:

- Clear opening widths as scheduled.
- Accessible ironmongery.
- Appropriate opening forces.
- Vision panels where required.
- Manifestation to glazed screens where applicable.
- Flush thresholds unless otherwise detailed.

10.9 Installation

Install doorsets in accordance with the manufacturer's published recommendations.

Ensure:

- Frames are plumb and level.
- Adequate fixing to surrounding construction.
- Correct clearances are maintained.
- Hardware is adjusted.
- Doors operate freely.
- No binding occurs.
- Seals remain continuous.

Coordinate installation with floor finishes and suspended ceilings.

10.10 Fire Stopping

Maintain compartmentation around all fire doors and glazed screens.

Provide proprietary fire stopping between frames and surrounding construction.

Seal all voids using compatible tested systems.

Refer to Section 14.

10.11 Door Hardware Adjustment

Adjust all hardware following completion of finishes.

Ensure:

- Closers operate correctly.
- Latches engage positively.
- Locks operate smoothly.
- Hold-open devices function correctly.
- Doors fully close against seals.

10.12 Signage

Provide door identification and statutory signage as indicated on the drawings.

Fire doors shall be provided with appropriate fire door identification signage.

Signage shall be securely fixed and aligned.

10.13 Quality Requirements

Completed installations shall:

- Be plumb and level.
- Operate smoothly without binding.
- Close fully under the action of the closer.
- Latch correctly.
- Be free from visible damage.
- Have uniform margins.
- Be complete with all specified ironmongery.
- Be clean and ready for occupation.

10.14 Inspection Requirements

Inspection Stage	Hold Point
Door frame installation	✓
Fire stopping around frames	✓
Door leaf installation	✓
Ironmongery installation	✓
Door closer adjustment	✓
Final operation test	✓

10.15 Contractor Submittals

Prior to Installation

- Door schedule.
- Ironmongery schedule.
- Product data sheets.

- Fire certification.
- Shop drawings where required.
- Samples if requested.

During Construction

- Inspection requests.
- Installation records.
- Fire stopping records.

At Completion

- Fire door certification.
- Ironmongery warranties.
- Door operation records.
- O&M information.
- As-installed schedules.

10.16 Common Causes of Defects

The Contractor shall implement quality control procedures to prevent:

- Misaligned frames.
- Excessive door gaps.
- Incorrect hardware.
- Missing intumescent or smoke seals.
- Poorly adjusted closers.
- Damage to factory finishes.
- Loose ironmongery.
- Incorrect threshold levels.
- Incomplete fire stopping around frames.

10.17 Acceptance Criteria

The completed installation shall satisfy the following:

Item	Requirement
Door Alignment	Plumb, level and square
Door Margins	Uniform and in accordance with manufacturer's recommendations
Operation	Opens and closes freely without binding
Fire Doors	Self-close and positively latch
Hardware	Securely fixed and fully operational
Vision Panels	Clean, secure and undamaged
Finish	Free from scratches, dents and defects
Fire Stopping	Complete and certified

10.18 Completion Requirements

Prior to Practical Completion:

- All doors shall be installed and adjusted.
- All hardware shall be complete and operational.
- Fire door certification shall be submitted.
- Fire stopping shall be complete.
- Signage shall be installed.
- All protective coverings shall be removed.
- Doors shall be cleaned and left in a condition ready for occupation.

SECTION 11 – CEILINGS

11.1 Scope

This section covers all ceiling works required for the project, including new suspended ceilings, fire-resisting ceilings, plasterboard ceilings, bulkheads, access panels, support framing, perimeter trims, service penetrations and all associated works.

The completed ceiling installation shall provide the required fire resistance, acoustic performance, appearance and access to concealed building services.

11.2 Related Documents

Read this Section in conjunction with:

- Architectural Drawings.
- Reflected Ceiling Plans.
- Mechanical & Electrical Drawings.
- Fire Safety Certificate.
- Door Schedule.
- Section 8 – Internal Partitions.
- Section 14 – Passive Fire Protection.
- Section 17 – Testing, Commissioning & Certification.

11.3 Design Intent

The ceiling systems shall:

- Form the finished ceiling throughout the building.
- Provide the required fire resistance where specified.
- Conceal building services.
- Permit access to concealed services for maintenance.
- Integrate with lighting, ventilation, fire alarm devices and other ceiling-mounted equipment.
- Provide a neat, level and durable finish suitable for office accommodation.

11.4 General Requirements

Provide complete ceiling systems including:

- Suspension systems.
- Ceiling tiles where specified.
- Metal framing.
- Plasterboard.
- Bulkheads.

- Perimeter trims.
- Access panels.
- Trimming around services.
- Support framing.
- All fixings and ancillary components.

Complete ceiling systems shall be supplied and installed in accordance with the manufacturer's recommendations.

11.5 Suspended Ceilings

Suspended ceilings shall:

- Be set out symmetrically within each room.
- Align with lighting, air terminals and ceiling-mounted equipment.
- Include full perimeter support.
- Provide adequate support to prevent deflection or movement.
- Incorporate all necessary trims and closures.

Cut tiles shall be minimised and arranged symmetrically.

11.6 Fire-Resisting Ceilings

Fire-resisting ceilings shall:

- Be installed as complete tested systems.
- Achieve the fire resistance specified on the Contract Drawings.
- Incorporate all proprietary suspension systems, fixings and perimeter details.
- Be continuous throughout the compartment unless otherwise detailed.

No substitution of components shall be permitted unless supported by equivalent fire test evidence.

11.7 Bulkheads

Construct bulkheads where indicated on the drawings.

Bulkheads shall:

- Be securely supported.
- Be true, straight and level.
- Align with adjacent ceilings.
- Incorporate all necessary framing.
- Provide access to concealed services where required.

11.8 Ceiling Access Panels

Provide proprietary access panels where required to permit maintenance of:

- Mechanical services.
- Electrical services.
- Fire alarm equipment.
- Isolation valves.
- Junction boxes.
- Control equipment.

Panels shall:

- Match the adjacent ceiling finish.
- Be flush fitting.
- Be easily removable.
- Not compromise the fire resistance of the ceiling.

Fire-rated access panels shall be provided where installed within fire-resisting ceilings.

11.9 Coordination with Building Services

Prior to installation, coordinate all ceiling layouts with:

- Lighting.
- Emergency lighting.
- Fire alarm devices.
- Smoke detectors.
- Ventilation grilles.

- Diffusers.
- Sprinklers (where applicable).
- Access panels.
- Structural elements.

No ceiling installation shall commence until service locations have been agreed.

11.10 Service Penetrations

Trim neatly around all penetrations.

Seal penetrations through fire-resisting ceilings using tested proprietary fire stopping systems.

Refer to Section 14.

11.11 Existing Ceilings

Existing ceilings identified for retention shall be:

- Protected during construction.
- Repaired where damaged.
- Made good following alterations.
- Prepared for redecoration where indicated.

Repairs shall match the adjacent construction.

11.12 Quality Requirements

Completed ceilings shall:

- Be level within **±3 mm over 2.0 m**.
- Be free from sagging or distortion.
- Have straight, continuous joints.
- Be free from visible fixing marks.
- Be free from staining or damage.

- Incorporate all specified access panels.
- Provide a consistent, high-quality finish.

11.13 Inspection Requirements

Inspection Stage	Hold Point
Ceiling setting out	✓
Suspension system installed	✓
Building services coordinated	✓
Fire stopping complete	✓
Ceiling boarded / tiled	✓
Access panels installed	✓
Final inspection	✓

11.14 Contractor Submittals

Prior to Installation

- Ceiling layout drawings.
- Product data sheets.
- Fire test certification where applicable.
- Manufacturer's installation details.
- Method statement.

During Construction

- Inspection requests.
- Fire stopping records.
- Coordination drawings.

At Completion

- Fire certification.
- Access panel schedule.

- Maintenance recommendations.
- Product warranties.
- O&M information.

11.15 Common Causes of Defects

The Contractor shall implement quality control procedures to prevent:

- Uneven ceiling levels.
- Misaligned grid systems.
- Poorly positioned cut tiles.
- Missing access panels.
- Inaccessible building services.
- Unsealed fire penetrations.
- Damaged ceiling tiles.
- Cracked plasterboard joints.
- Poor junctions at partitions and bulkheads.

11.16 Acceptance Criteria

Item	Requirement
Ceiling Level	Uniform and level throughout
Grid Alignment	Straight and symmetrical
Plasterboard Finish	Smooth and ready for decoration
Access Panels	Flush, secure and operational
Fire Ceiling	Complete tested system
Service Coordination	All fittings correctly aligned
Penetrations	Neatly formed and fire sealed where required
Appearance	Clean, undamaged and consistent

11.17 Completion Requirements

Prior to Practical Completion:

- All ceiling systems shall be complete.
- Fire stopping shall be complete.
- Access panels shall be installed and operational.
- Ceiling-mounted services shall be coordinated and fully operational.
- Ceilings shall be cleaned and free from defects.
- All certification shall be submitted in accordance with Section 17.

SECTION 12 – INTERNAL FINISHES

12.1 Scope

This section covers all internal floor, wall and ceiling finishes together with associated preparation, trims, skirtings, sealants and decorations required for the complete execution of the Works.

Provide all labour, materials and accessories necessary to achieve a complete, durable and high-quality finish throughout.

12.2 Design Intent

Internal finishes shall provide a durable, attractive and low-maintenance environment suitable for office accommodation.

Finishes shall be appropriate for their intended use, easy to clean and maintain, and coordinated with the overall architectural design.

12.3 Floor Finishes

Provide floor finishes as indicated on the Room Finish Schedule.

Prior to installation:

- Verify moisture content of subfloors.
- Ensure substrates are level, dry and free from contamination.
- Remove all surface irregularities likely to affect the finished installation.

- Protect completed finishes from damage until Practical Completion.

At junctions between different floor finishes provide proprietary transition strips suitable for the adjoining materials.

12.4 Vinyl Flooring

Where vinyl flooring / Sheet Marmoleum is specified:

- Install in accordance with the manufacturer's recommendations.
- Lay to a smooth, level substrate.
- Form neat joints.
- Continue flooring beneath removable fittings where practical.
- Dress neatly around columns, partitions and services.

Welded joints shall be flush and continuous.

12.5 Carpet Finishes – Not Proposed

Where carpet finishes are specified:

- Install using the approved fixing method.
- Maintain consistent pile direction.
- Minimise joints.
- Position joints clear of principal circulation routes where practicable.
- Provide proprietary transition trims at adjoining finishes.

12.6 Skirtings

Provide skirtings as scheduled.

Mitre internal and external corners accurately.

Securely fix skirtings to walls.

Seal junctions where required to provide a neat finish.

12.7 Wall Finishes

Prepare all wall surfaces in accordance with the manufacturer's recommendations.

Wall finishes shall:

- Provide a smooth, even appearance.
- Be free from surface defects.
- Be suitable for the specified decoration system.
- Extend behind removable fittings where practical.

Repair all damage prior to decoration.

12.8 Decoration

Apply decoration systems in accordance with the manufacturer's recommendations.

Prepare surfaces by filling, sanding and cleaning before application.

Do not apply finishes to damp or contaminated surfaces.

Provide the number of coats required to achieve full opacity, uniform colour and consistent finish.

Touch-up painting will not be accepted as a substitute for complete redecoration of visibly defective areas.

12.9 Sealants

Provide sealants at junctions between dissimilar materials including:

- Joinery.
- Window frames.
- Door frames.
- Skirtings.
- Service penetrations.
- Sanitary fittings where applicable.

Sealants shall:

- Be compatible with adjoining materials.
- Be neatly applied.

- Form smooth, continuous joints.
- Be free from gaps or air bubbles.

12.10 Quality Requirements

Completed finishes shall:

- Be level, smooth and uniform.
- Be free from scratches, dents, staining or contamination.
- Have straight, neatly formed junctions.
- Be fully bonded where applicable.
- Be clean and ready for occupation.
- Match approved samples where required.

12.11 Common Causes of Defects

The Contractor shall implement quality control procedures to avoid:

- Uneven floor levels.
- Poor substrate preparation.
- Lipping between adjacent finishes.
- Visible joints.
- Damaged finishes during construction.
- Poor colour consistency.
- Inadequate surface preparation.
- Untidy sealant joints.
- Incomplete decoration behind fittings.

12.12 Acceptance Criteria

Item	Requirement
Floor Finishes	Level, fully bonded and free from defects

Item	Requirement
Vinyl Joints	Straight, fully welded and flush
Carpet	Uniform appearance with minimal visible joints
Decorations	Even colour, complete coverage and no visible defects
Sealants	Continuous, neatly finished and fully adhered
Skirtings	Straight, securely fixed and neatly jointed
Overall Finish	Clean, undamaged and ready for occupation

12.13 Completion Requirements

Upon completion:

- Remove all protective coverings.
- Thoroughly clean all finished surfaces.
- Replace any damaged finishes.
- Leave all rooms complete and ready for occupation.

SECTION 13 – JOINERY & FITTED FURNITURE

13.1 Scope

Provide all internal joinery and fitted furniture as indicated on the Contract Drawings, including reception counters, kitchen units, worktops, shelving, storage cupboards, window boards, trims, skirtings, architraves, boxing, access panels and all associated fittings and fixings.

Supply, deliver and install complete assemblies, including all supports, brackets, hardware and accessories necessary for a fully finished installation.

13.2 Design Intent

Joinery shall provide durable, functional and aesthetically consistent elements suitable for daily office use. Finished installations shall be robust, accurately fitted and capable of withstanding normal wear without deterioration.

13.3 Materials

Provide factory manufactured joinery fabricated from moisture-resistant board, hardwood, plywood or other approved materials as detailed on the drawings or schedules.

Exposed edges shall be finished with matching lippings or edge banding.

Visible surfaces shall be free from defects, chips, scratches or colour variation.

13.4 Fabrication

Fabricate joinery to the dimensions shown on the Contract Drawings.

Factory manufacture shall be preferred wherever practical.

Dry-fit complex items prior to delivery where necessary to ensure accuracy.

13.5 Installation

Install joinery true, level and securely fixed.

Provide concealed fixings wherever practicable.

Coordinate installation with:

- electrical outlets;
- data outlets;
- mechanical services;
- skirtings;
- floor finishes;
- suspended ceilings.

Scribe neatly to adjoining construction.

Seal junctions where required.

13.6 Worktops

Worktops shall:

- be level;
- be securely fixed;

- include all cut-outs;
- be sealed against moisture ingress;
- incorporate upstands where scheduled.

Seal all penetrations around sinks and services.

13.7 Hardware

Provide all hinges, locks, catches, runners, supports and associated hardware.

Adjust all moving parts to ensure smooth operation.

Replace damaged hardware prior to Practical Completion.

13.8 Quality Requirements

Completed joinery shall:

- be level and plumb;
- have consistent joints;
- be free from movement;
- have uniform gaps;
- operate smoothly;
- be free from visible damage;
- be ready for immediate use.

13.9 Acceptance Criteria

Item	Requirement
Alignment	True, level and plumb
Doors & Drawers	Operate freely
Worktops	Level and securely fixed
Junctions	Neatly scribed and sealed
Finish	Free from scratches and defects

Item	Requirement
Hardware	Fully operational

13.10 Completion

Clean all joinery.

Remove protective coverings.

Adjust all moving components.

Replace damaged items.

Leave complete and ready for occupation.

SECTION 14 – PASSIVE FIRE PROTECTION

14.1 Scope

Provide all passive fire protection works necessary to maintain the fire resistance of the building as required by the Fire Safety Certificate, Building Regulations and the Contract Documents.

This section includes fire stopping, cavity barriers, fire sealing, protection of structural elements, fire-rated partitions, fire-rated ceilings, fire-rated access panels, fire collars, penetration seals and associated fire protection works.

14.2 Design Intent

Passive fire protection measures shall maintain the integrity of all fire-resisting elements of construction and prevent the spread of fire and smoke through walls, floors, ceilings and service penetrations.

The completed installation shall form a continuous fire compartmentation system throughout the building.

14.3 General Requirements

All passive fire protection products shall:

- be third-party certified;
- be installed strictly in accordance with the manufacturer's tested system;

- be compatible with adjoining construction;
- be suitable for the fire resistance period required.

No untested combinations of products shall be permitted.

14.4 Service Penetrations

Seal all penetrations through fire-resisting construction.

Provide suitable proprietary systems for:

- electrical cables;
- cable trays;
- conduits;
- pipework;
- ducts;
- ventilation systems;
- structural penetrations.

Maintain the required fire resistance of the surrounding construction.

14.5 Fire Stopping

Fire stopping shall:

- completely seal all voids;
- maintain compartment integrity;
- be installed by competent operatives;
- remain accessible for inspection prior to enclosure.

Damaged or incomplete fire stopping shall be removed and replaced.

14.6 Junctions

Provide continuous fire stopping at junctions between:

- walls and floors;
- walls and ceilings;

- partitions and external walls;
- partitions and structural steel;
- lift enclosure interfaces;
- service risers.

14.7 Fire Doors

Install fire doors in accordance with Section 10.

Maintain fire resistance around frames.

Seal frame-to-wall junctions using approved fire stopping systems.

14.8 Fire-Rated Ceilings

Complete all fire-rated ceiling systems as tested proprietary systems.

Maintain continuity around:

- lighting;
- diffusers;
- access panels;
- services.

14.9 Structural Fire Protection

Provide protection to structural elements where indicated on the drawings or required by the Structural Engineer.

Maintain continuity of protection around all connections and supports.

14.10 Inspection

No fire stopping shall be concealed until inspected by the Architect.

Photographic records shall be maintained for all concealed fire stopping installations.

14.11 Fire Stopping Register

Maintain a Fire Stopping Register throughout the Works recording:

- reference number;
- location;
- fire stopping system;
- fire resistance period;
- installer;
- installation date;
- photograph reference.

The completed register shall form part of the handover documentation.

14.12 Quality Requirements

Passive fire protection shall:

- be continuous;
- be correctly identified;
- be fully bonded;
- achieve the required fire resistance;
- remain free from damage.

14.13 Common Causes of Defects

Particular attention shall be given to preventing:

- unsealed penetrations;
- missing fire collars;
- incomplete cavity barriers;
- damaged fire seals;
- incorrect products;
- undocumented fire stopping;
- unprotected structural steel;
- poor workmanship around door frames.

14.14 Acceptance Criteria

Item	Requirement
Fire Stopping	Complete and continuous
Service Penetrations	Fully sealed
Fire Doors	Correctly sealed
Fire Ceilings	Complete tested system
Structural Protection	Complete and undamaged
Documentation	Fire Stopping Register completed

14.15 Completion

Prior to Practical Completion:

- All fire stopping shall be complete.
- All fire protection systems shall be inspected.
- The Fire Stopping Register shall be submitted.
- Fire door certification shall be submitted.
- All passive fire protection shall be complete before final commissioning and certification.

SECTION 15 – BUILDER'S WORK IN CONNECTION WITH SERVICES

15.1 Scope

This section covers all builder's work necessary to facilitate the installation, commissioning and maintenance of the Mechanical and Electrical services.

The Main Contractor shall coordinate all builder's work associated with the services installation to ensure the works are completed without delay or conflict.

Builder's work includes all openings, chases, sleeves, plinths, supports, fixings, access provisions, making good, fire stopping and associated construction works required for the proper installation of the building services.

15.2 Design Intent

Builder's work shall be completed in a manner that allows the Mechanical and Electrical installations to be fully integrated within the building while maintaining the structural integrity, fire compartmentation, acoustic performance, weather resistance and architectural finish of the completed building.

15.3 Coordination

Before commencing construction, coordinate all builder's work with:

- Mechanical Services Drawings.
- Electrical Services Drawings.
- Structural Engineer's Drawings.
- Architectural Drawings.
- Specialist Supplier Drawings.

Verify all service routes prior to construction.

No opening, penetration or recess shall be formed until coordinated drawings have been reviewed.

15.4 Openings

Form all openings required for:

- Ductwork.
- Pipework.
- Cable trays.
- Containment.
- Electrical services.
- Ventilation systems.
- Platform lift services.
- Service risers.

Provide all trimming and structural supports necessary to accommodate openings.

Do not cut structural members without written approval from the Structural Engineer.

15.5 Sleeves

Provide sleeves through walls, floors and foundations where services pass through the structure.

Sleeves shall:

- Be of adequate size.
- Be securely fixed before concrete placement where applicable.
- Permit installation without damage to services.
- Be sealed following installation of services.

15.6 Chases

Form chases only where shown on the drawings or approved by the Architect.

Do not chase structural members.

Limit chasing within masonry walls to avoid compromising structural stability.

Repair chases following service installation using compatible materials.

15.7 Supports

Provide all builder's work associated with supporting services including:

- Equipment plinths.
- Plant bases.
- Framing.
- Trimming.
- Timber grounds.
- Secondary steelwork where detailed.
- Brackets fixed to the building structure.

Specialist service supports shall be supplied and installed by the relevant Mechanical or Electrical Contractor unless otherwise specified.

15.8 Access

Provide access to all concealed equipment requiring inspection or maintenance.

Access shall be provided by means of:

- Proprietary access panels.
- Removable ceiling tiles.
- Removable boxing.
- Hinged access doors.
- Access hatches.

Coordinate access panel locations with the Mechanical and Electrical Contractor prior to installation.

15.9 Fire Compartmentation

Where services pass through fire-resisting construction:

- Maintain the fire resistance of the building element.
- Provide tested proprietary fire stopping systems.
- Coordinate installation with Section 14 – Passive Fire Protection.
- Record all penetrations within the Fire Stopping Register.

15.10 Making Good

Upon completion of service installation:

- Make good all disturbed finishes.
- Reinstall wall, floor and ceiling finishes to match adjacent construction.
- Reinstall insulation, vapour barriers and airtightness measures where disturbed.
- Reinstall fire protection systems.
- Leave all surfaces ready for final decoration.

Finished work shall be indistinguishable from adjacent construction.

15.11 Builder's Work Schedule

The Main Contractor shall provide all builder's work associated with:

Item	Builder's Work Required
Ductwork	Openings, trimming, fire stopping, making good
Pipework	Chases, sleeves, boxing, making good
Cable Trays	Openings, supports, making good
Electrical Containment	Chases, openings, making good
Platform Lift	Openings, supports, fire stopping
Ventilation	Roof and wall penetrations, flashings, making good
Building Services	Access panels, supports, sealing

15.12 Quality Requirements

Builder's work shall:

- Be accurately set out.
- Be completed before service installation where required.
- Be neatly formed.
- Be free from unnecessary damage.
- Be fully coordinated with all trades.
- Permit installation without modification to completed construction.
- Maintain structural, fire and acoustic performance.

15.13 Acceptance Criteria

Item	Requirement
Openings	Correct size and location
Sleeves	Correctly positioned and sealed
Chases	Neatly formed and repaired
Supports	Secure and correctly located

Item	Requirement
Fire Stopping	Complete and certified
Access Panels	Accessible and correctly located
Making Good	Matches adjacent construction

15.14 Completion

Prior to Practical Completion:

- All builder's work associated with services shall be complete.
- Fire stopping shall be complete.
- Access panels shall be installed.
- Finishes shall be reinstated.
- All penetrations shall be sealed.
- Builder's work shall be inspected and accepted prior to final handover.

SECTION 16 – EXTERNAL WORKS

16.1 Scope

This section covers all external works associated with the proposed alterations, including reinstatement works, making good, local drainage alterations, alterations to the external building fabric, sealing of new openings and all associated works required to complete the project.

16.2 Design Intent

The completed external works shall:

- Reinstatement all disturbed areas.
- Maintain the weather resistance of the building.
- Preserve the appearance of the existing development.
- Ensure positive drainage away from the building.
- Leave the site clean, safe and fully operational.

16.3 Existing Surfaces

Protect all existing:

- Roads.
- Footpaths.
- Kerbs.
- Landscaping.
- Building finishes.
- Drainage infrastructure.

Any damage caused during the Works shall be repaired to match the existing construction.

16.4 Excavations

Carry out only those excavations necessary to complete the Works.

Reinstate excavations immediately following completion of the associated works.

Prevent ponding of water.

16.5 Reinstatement

Reinstate all disturbed surfaces to match the adjoining construction.

This shall include, where applicable:

- Concrete.
- Tarmacadam.
- Paving.
- Topsoil.
- Grassed areas.
- Kerbs.
- Edgings.

Finished levels shall match adjoining surfaces.

16.6 Drainage

Maintain the operation of all existing drainage systems.

Protect existing gullies, channels and underground drainage during construction.

Clear all drainage systems of debris prior to completion.

16.7 External Building Fabric

Complete all making good associated with:

- New window installations.
- Structural alterations.
- Service penetrations.
- Lift installation.
- Builder's work.

Provide all flashings, sealants and weatherproofing necessary to maintain the integrity of the external envelope.

16.8 Sealants

Provide external-grade sealants to all junctions between:

- New windows and existing walls.
- Service penetrations.
- Flashings.
- Dissimilar materials.

Sealants shall be compatible with adjoining materials and capable of accommodating anticipated movement.

16.9 Cleaning

Upon completion:

- Remove all construction debris.
- Remove temporary protection.
- Clean external glazing.

- Clean external finishes.
- Wash down affected areas.
- Leave the site in a clean and tidy condition.

16.10 Quality Requirements

Completed external works shall:

- Match adjoining construction.
- Be free from settlement.
- Provide positive drainage.
- Be weather-tight.
- Be free from damage.
- Present a neat and consistent appearance.

16.11 Acceptance Criteria

Item	Requirement
Reinstatement	Matches adjacent construction
Drainage	Positive falls, free draining
Sealants	Continuous, neatly finished
External Finishes	Clean and undamaged
Making Good	Indistinguishable from adjacent work
Site	Clean and ready for occupation

16.12 Completion

Prior to Practical Completion:

- All external works shall be complete.
- Disturbed surfaces shall be reinstated.
- Drainage shall be operational.

- External walls shall be weather-tight.
- The site shall be cleaned and all surplus materials removed.

SECTION 17 – TESTING, COMMISSIONING, CERTIFICATION & HANDOVER

17.1 Scope

This section sets out the minimum requirements for testing, commissioning, inspection, certification, training and handover of the completed Works.

The Contractor shall coordinate all testing and commissioning activities and obtain all certificates necessary to demonstrate compliance with the Contract Documents and statutory requirements.

No element of the Works shall be deemed complete until all required inspections, testing, commissioning and certification have been successfully completed.

17.2 General Requirements

The Contractor shall:

- Coordinate all testing and commissioning activities.
- Provide access for inspections.
- Notify the Architect of all testing in sufficient time to permit attendance.
- Rectify all defects identified during testing.
- Repeat testing where failures occur.
- Submit all certificates prior to Practical Completion.

17.3 Building Works

Provide certification and documentation confirming completion of:

- Structural alterations.
- Structural steel installation.
- Timber structural works.
- Fire compartment construction.
- Fire door installation.
- Passive fire protection.

- Glazed screens.
- Platform lift builder's work.
- Windows and external envelope.
- Internal finishes.
- Joinery.

Where warranties are provided by manufacturers, these shall be assigned to the Employer upon completion.

17.4 Structural Certification

Provide:

- CE certification for structural steel.
- Declaration of Performance.
- Fabrication certificates.
- Welding certificates where applicable.
- Structural Engineer's inspection records.
- Survey information where required.

17.5 Fire Door Certification

Submit certification confirming that all fire-resisting doorsets have been supplied and installed in accordance with the manufacturer's tested system.

Certification shall include:

- Door schedule.
- Fire rating.
- Manufacturer.
- Installer.
- Installation date.
- Maintenance recommendations.

17.6 Passive Fire Protection

Submit:

- Fire Stopping Register.
- Product certification.
- Installation records.
- Photographic records.
- Installer competency details.

All fire stopping shall be complete prior to ceiling closure unless otherwise approved.

17.7 Electrical Certification

The Electrical Contractor shall provide:

- Electrical Completion Certificate in accordance with **I.S. 10101**.
- Electrical installation test results.
- Distribution board schedules.
- Circuit schedules.
- Earth loop impedance test results.
- RCD test results.
- Insulation resistance tests.
- Earthing and bonding verification.
- Labelling schedule.
- As-installed drawings.

17.8 Fire Alarm

Provide certification confirming that the fire detection and alarm system has been installed, tested and commissioned in accordance with **I.S. 3218**.

Submit:

- Certificate of Compliance.
- Commissioning records.
- Cause and Effect Matrix.

- Zone chart.
- Device schedule.
- As-installed drawings.
- Operating instructions.
- Maintenance recommendations.
- User training records.

Demonstrate the correct operation of the system to the Employer's Representative prior to Practical Completion.

17.9 Emergency Lighting

Provide certification confirming that the emergency lighting installation complies with **I.S. 3217**.

Submit:

- Certificate of Compliance.
- Commissioning records.
- Three-hour duration test results.
- Lux level verification where applicable.
- Emergency lighting logbook.
- As-installed drawings.
- Maintenance recommendations.

Demonstrate the operation of the emergency lighting installation to the Employer's Representative.

17.10 Platform Lift

Provide:

- CE Declaration of Conformity.
- Commissioning Certificate.
- Load test certificate.
- Functional testing records.

- Emergency lowering test.
- Warranty documentation.
- Maintenance recommendations.
- User operating instructions.
- Training records.

Complete all statutory inspections required prior to placing the lift into service.

17.11 Mechanical Services

The Mechanical Contractor shall provide:

- Pressure testing certificates.
- Flushing and cleaning records.
- Water treatment certificates.
- Balancing reports.
- Ventilation commissioning reports.
- Airflow test results.
- Equipment commissioning records.
- Manufacturer warranties.
- As-installed drawings.
- Operation and maintenance information.

17.12 Operation & Maintenance Manuals

Provide indexed Operation and Maintenance Manuals in both electronic (PDF) and hard copy format.

Manuals shall include, where applicable:

- Architectural elements.
- Structural elements.
- Mechanical installations.
- Electrical installations.

- Fire alarm system.
- Emergency lighting.
- Platform lift.
- Windows and doors.
- Joinery.
- Cleaning recommendations.
- Planned maintenance schedules.
- Product literature.
- Warranties.
- Spare parts information.

17.13 As-Installed Information

Provide complete record documentation including:

- Architectural record drawings.
- Structural record drawings.
- Mechanical record drawings.
- Electrical record drawings.
- Door schedule.
- Window schedule.
- Fire stopping register.
- Asset schedules where applicable.

All record drawings shall accurately reflect the completed Works.

17.14 Training

Provide training for the Employer's nominated personnel covering:

- Platform lift operation.
- Fire alarm operation.
- Emergency lighting testing.

- Building services operation.
- Isolation procedures.
- Planned maintenance requirements.

Training shall be completed prior to Practical Completion.

17.15 Practical Completion

Practical Completion will not be considered until:

- All works are complete.
- All defects identified during inspections have been rectified.
- Testing and commissioning have been successfully completed.
- All statutory certificates have been submitted.
- Record drawings have been submitted.
- Operation and Maintenance Manuals have been submitted.
- User training has been completed.
- Warranties and guarantees have been provided.
- The building has been cleaned and is ready for occupation.

17.16 Documentation Required Prior to Practical Completion

The following minimum documentation shall be submitted:

Documentation	Required
Structural Steel Certification	✓
Structural Inspection Records	✓
Fire Door Certification	✓
Fire Stopping Register	✓
Passive Fire Certification	✓
Electrical Completion Certificate (I.S. 10101)	✓

Documentation	Required
Fire Alarm Certificate (I.S. 3218)	✓
Emergency Lighting Certificate (I.S. 3217)	✓
Mechanical Commissioning Certificates	✓
Platform Lift Commissioning Certificate	✓
Platform Lift CE Declaration	✓
Manufacturer Warranties	✓
O&M Manuals	✓
Record Drawings	✓
Training Records	✓
Final Cleaning Confirmation	✓

17.17 Acceptance Criteria

The Works shall be deemed complete only when:

- All systems have been successfully tested and commissioned.
- All certification has been received and accepted.
- All defects have been rectified.
- All statutory approvals have been obtained where applicable.
- The Employer has received all manuals, warranties and record documentation.
- The building is safe, operational and ready for occupation.

SECTION 18 – HANDOVER, DEFECTS LIABILITY & PROJECT CLOSE-OUT

18.1 Scope

This section sets out the requirements for Practical Completion, handover of the completed Works, the Defects Liability Period, rectification of defects and final completion of the Contract.

The Contractor shall ensure that the Works are fully complete, tested, commissioned, certified and ready for occupation prior to requesting inspection for Practical Completion.

18.2 Practical Completion

Practical Completion shall only be considered when:

- The Works have been completed in accordance with the Contract Documents.
- All statutory inspections have been completed.
- All testing and commissioning has been successfully completed.
- All required certificates have been submitted.
- All Operation and Maintenance Manuals have been submitted.
- All record drawings have been submitted.
- The building is safe and suitable for occupation.
- The Architect is satisfied that only minor defects or omissions remain that do not prevent beneficial occupation.

Practical Completion shall be certified only by the Employer's Representative in accordance with the Conditions of Contract.

18.3 Handover Documentation

Prior to Practical Completion, provide the following documentation:

- Operation and Maintenance Manuals.
- Architectural record drawings.
- Structural record drawings.
- Mechanical record drawings.
- Electrical record drawings.
- Fire alarm documentation.
- Emergency lighting documentation.
- Platform lift documentation.
- Door schedule.
- Window schedule.
- Fire Stopping Register.
- Product warranties.

- Manufacturers' guarantees.
- Maintenance schedules.
- Cleaning recommendations.
- Asset information where required.

All documentation shall be complete, indexed and submitted in electronic PDF format together with one bound hard copy unless otherwise directed.

18.4 Keys, Access Devices & Security

At handover provide:

- All keys.
- Master keys.
- Access cards.
- Fobs.
- Security codes.
- Digital passwords where applicable.
- Spare cylinders.
- Special operating tools.

Clearly identify all items and provide an indexed schedule.

18.5 Demonstration & Training

Prior to Practical Completion provide instruction and demonstration to the Employer's nominated personnel covering:

- Platform lift operation.
- Fire alarm operation.
- Emergency lighting testing procedures.
- Heating and ventilation controls.
- Electrical isolation procedures.
- Routine maintenance requirements.
- Cleaning procedures where specialist finishes have been installed.

Provide written confirmation that training has been completed.

18.6 Defects Liability Period

The Contractor shall remain responsible for defects arising from defective workmanship, materials or installation during the Defects Liability Period as defined in the Contract.

Upon notification by the Employer's Representative, defects shall be rectified within a reasonable period appropriate to the nature of the defect.

Where defects present a safety risk or significantly affect the operation of the building, the Contractor shall respond immediately and make safe without delay.

18.7 Rectification of Defects

Defective work shall be repaired or replaced to the satisfaction of the Employer's Representative.

Where replacement work affects adjoining finishes, the Contractor shall make good all disturbed work to match the surrounding construction.

Repeated repairs to achieve an acceptable standard shall not be accepted where replacement is the more appropriate remedy.

18.8 Final Inspection

Prior to expiry of the Defects Liability Period, the Employer's Representative shall inspect the Works and prepare a schedule of any outstanding defects.

The Contractor shall complete all remedial works within the agreed period before application for the Final Certificate.

18.9 Final Account Documentation

Prior to agreement of the Final Account, provide any outstanding documentation required under the Contract, including:

- Outstanding warranties.
- Updated record drawings.
- Revised Operation and Maintenance information where applicable.

- Confirmation that all notified defects have been rectified.

18.10 Cleaning

Immediately prior to handover:

- Thoroughly clean all internal areas.
- Clean all glazing internally and externally.
- Remove labels, temporary markings and protective coverings.
- Vacuum and clean floor finishes.
- Clean sanitary fittings.
- Remove all construction debris.
- Leave the building ready for immediate occupation.

18.11 Acceptance Criteria

The Works shall be considered suitable for handover when:

Item	Requirement
Building Works	Complete
Defects	No outstanding defects preventing occupation
Testing	Complete
Commissioning	Complete
Certification	Submitted and accepted
O&M Manuals	Submitted
Record Drawings	Submitted
Training	Completed
Cleaning	Complete

Item	Requirement
Keys & Access Devices	Handed over

18.12 Completion

The Contract shall not be considered fully complete until:

- All defects have been rectified.
- The Defects Liability Period has expired.
- The Final Inspection has been completed.
- The Employer's Representative has confirmed that all contractual obligations have been satisfied.
- The Final Certificate has been issued in accordance with the Conditions of Contract.

Product	Manufacturer
Partitions	British Gypsum / Siniat / Knauf
Ceiling	Armstrong / Zentia
Fire Stopping	Hilti / Nullifire / Rockwool
Doors	Factory Certified
Ironmongery	Dorma
Paint	Dulux / Crown
Flooring	Forbo / Tarkett

